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Spaces of inequality: It's not differentiation, it is inequality! A socio-spatial analysis of the City of Porto[1]

ABSTRACT

As territorial magnets for people and activities, cities simultaneously concentrate opportunities (e.g. employment, consumption, entertainment) and problems (e.g. unemployment, lack of affordable housing, crime). As a result, they can be regarded as complex social systems, which to some extent are characterized by, and are a source of, inequalities. By analysing the issue of inequality from a socio-spatial perspective, this article aims to show that the post-industrial city is changing insofar as social and spatial disparities are increasing on the basis of income and political influence. The article consists of two parts. The first addresses the issue of inequality and the city, providing a review of the literature on the relationship between social and spatial inequalities. The second is empirical, focusing upon the city of Porto and exploring several intersecting ideas related to the selective processes of de-concentration (or suburbanization) of people and activities, and the way they shape the separation of classes across geographical space. The results confirm the initial hypotheses of increasing socio-spatial inequality in Porto, in a context in which public policies are not geared towards the goal of mitigating socio-economic disparities, but are shaped inversely by consolidated economic ones.

KEYWORDS

social polarization
housing
planning
inequality
Porto
Portugal

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INTRODUCTION

Economic, social and political changes over recent decades have aggravated social inequalities in most European countries and have accelerated differences in living conditions between social groups and urban neighbourhoods. As Andersen and van Kempen (2003) point out, along with increasing social polarization, there are clear signs of a spatial dimension in this process.

To address these issues, this article is organized in the following manner. In the first part, the choice of title is justified by claiming the relevance of the concept of inequality to better express and explore the causes and effects of neo-liberal urban transformation in many cities. It then reflects upon several strands of research that have addressed the relationship between social and spatial inequality.

By using statistical data from Porto, in the empirical section of the article the article seeks to test the hypotheses of socio-spatial polarization on two different scales: (1) at the Porto region, between the municipality of Porto and its suburban municipalities; and (2) within the municipality of Porto, between three different geographical areas.

The following pages offer a revision of the literature on differentiation and inequality and the relations between social and spatial inequality.

THEORETICAL PERSPECTIVES

In Portugal there seems to have been numerous attempts to avoid the concept of inequality. This has been the case in the field of urban planning and housing policy, where the widespread use of neutral concepts, such as differentiation, has seemed like a way of avoiding uncomfortable debates about the crucial principles and goals that guide public policies towards high levels of disparity in urban well-being.

While use of the concept of differentiation has been stimulated by increasing urban diversity as a consequence of national and international processes of migration and economic restructuring, increasing socio-economic inequality demands the use of concepts that emphasize the need to rethink the way public resources are distributed, allocated and used.

Assuming that differentiation and inequality are not the same, this article asserts the importance of using the concept of inequality in the critical analysis of social and spatial disparities in the city and in the critical scrutiny of policies that do not mitigate but which rather reinforce these inequalities.

This section is structured as follows. First it explains the basic distinctions of the various uses of the concept of differentiation, then it examines the concept and the various theories of inequality.

Differentiation

While Lambert et al. (2012) claim differentiation is the product of the specialization of social and economic structures, Ascher notes that the process of social differentiation characterizes all spheres of social life, using the examples of processes of social and spatial division of labour, consumption and entertainment (Ascher 2010: 41).

At the urban level, differentiation between physical and social space has been scrutinized from various perspectives, mobilizing various dimensions (or axes) of analysis. From a demographic perspective, studies have shown the importance of family status variables (e.g. age, family structure, etc.) since specific groups tend to occupy specific niches in the urban fabric (e.g.

large families are typically concentrated in suburban areas, the elderly typically occupy older inner-city residential neighbourhoods). From an economic perspective, studies have highlighted the importance of socio-economic attributes, noting the relation between variable income and education, occupation, purchasing power and the functional specialization of different sub-areas of the city (commercial, residential, industrial, etc.). From a morphological perspective, other studies have focused upon physical elements and attributes such as the size and shape of plots of land, the layout of streets, etc. (for more details see Knox and Pinch 2014: 59–65).

Since housing and environmental quality are unequally distributed across the city and its access is limited to families (or classes) according to their size and the composition of economic, cultural, social and symbolic capital (Bourdieu 1999), it is necessary to scrutinize the influence of housing policies and town planning decisions in the distribution of advantageous properties across sub-areas and, therefore, social groups or social classes (Fainstein 2014).

On this issue, a growing literature has emphasized the importance of understanding where social classes and groups live and how they live and, as Tom Slater emphasizes: 'why do people live where they do in the cities?' and 'what are the structural factors that give rise to differential life chances and the inequality they produce?' (2013: 369).

In a reflection on 'Inequalities and social segregation', Le Galès and Therborn note that in cities that are classically characterized by inequality, the richest social groups are the motor of spatial segregation: 'the most educated and wealthiest individuals have great resources to oppose redistribution, to organize politically to limit tax, inheritance, or to move to exclusive areas, gated communities' (Le Galès and Therborn 2009: 75).

Besides parental characteristics, the residential environment (the neighbourhood) has been seen as a potential dimension shaping individual outcomes (e.g. educational attainment, income levels and social mobility). Deprived neighbourhoods in particular are assumed to have a negative impact on the life chances of their residents, with spatial poverty concentrations functioning to amplify the consequences of individual disadvantage (Alves 2015a).

The concept and theories of inequality

Like Estanque (2009) and Costa (2012), this article accepts the concept of inequality can be distinguished from that of differentiation because the former refers to unwanted differences that both violate the right to 'equality in difference' and limit opportunity for the most disadvantaged groups in society.

António Firmino da Costa and Renato do Carmo claim freedom is threatened when economic inequality reaches alarming levels and becomes the greatest obstacle to social mobility and ensuring such citizenship rights as the right to decent housing, income and welfare. Explaining the persistence and reproductive nature of inequality, they claim that: 'the systemic nature of inequality stems fundamentally from interdependent processes that cumulatively affect, and in a particularly incident form, the most vulnerable groups' (Costa and Carmo 2015: 5).

The concepts of inequality and equality have been analysed from different angles. For example, Esping-Andersen claims that: 'in the broadest meaning possible, equality is the major "leitmotif" of social science. In economics,

the stress is on the distribution (and utilization) of scarce resources; in political science more on power; and in sociology on social stratification' (Esping-Andersen 1999: 6). He also noted that the substantive meaning of equality has changed across historical epochs and societies, and has associated variegated meanings. It:

> can denote fairness and justice (that is, issues of equity), the distribution of opportunities, resources, and capabilities (which address equality of life chances), the allocation of rewards and the differentiation of living conditions (a more static, 'here and now' equality), or permanent social cleavages (a question of class formation).
>
> (1999: 6)

It is important to emphasize that despite the relative nature of the concept of inequality, which is usually measured by comparative ratios such as the Gini coefficient (Alves 2015b), or by indices that express large disparities in health and living conditions across several domains, the concept of inequality can objectively express unwanted differences, such as poor or precarious housing. Researchers at the Observatory of Inequalities, an independent structure at the Lisbon University Institute, have analysed the proximity of the relationship between inequality and a range of dependent outcomes, such as educational attainment, social mobility prospects, health outcomes and so on (see Costa and Carmo 2015; Carmo 2010).[2]

Young (1999, 2001) highlights the importance of taking into consideration structural factors at the societal level that give rise to distinct life chances and claims the basic structure of inequality in society concerns the way in which the major social institutions distribute fundamental rights and duties, immobilizing or diminishing particular groups in society. Arguing that a conception of justice should begin with the concepts of domination and oppression, Young notes how structural social and economic inequality often produces political inequality or exclusion from influential political discussions that, on the other hand, reproduce new inequalities in the city. On this issue, she affirms that in the US urban governments are often more responsive to neighbours in more affluent white neighbourhoods than to those in high-density ethnic neighbourhoods, which does not ensure fairness, equality opportunity and political inclusion (Young 2001). This is an opinion shared by the Spanish researchers Ordóñez and Alvarado, who claim that despite discourses of equality the foundations of inequality are currently the most widespread, notably in the everyday practice of economic systems or other mechanisms of the social system itself, such as tradition, ideology and culture (1991: 27).

The spatial turn in social science…

Classical theorists placed greater emphasis upon time and history than upon space and geography (Lobao et al. 2007; Skop 2006; Manderscheid 2009; Johnston 2003; Gans 2002), but over the latter half of the twentieth century a so-called 'spatial turn' was observed in the social sciences (Thrift 2006: 139). By employing the spatial lens to the study of society, these new approaches have challenged and transformed existing social theory (Lobao et al. 2007: 14). On this issue, Edward W. Soja claims human geographies have the same scope and critical significance as the historical and social dimensions of our lives (Borch 2002). Like others, Soja, who views space as an explanatory principle

2. For more details see Observatório das Desigualdades (2016).

for social theory, has analysed the relationships between space and society. On this debate it has been recognized that social relations are constituted, constrained and mediated through space and that social space is constructed thought the continuous interplay between the political, economic, social and cultural spheres (Giddens 2000). Space is a social product, but it is also an element that can shape social practices (Kim 2010).

At the local level, the urban spatial structure and its contents (e.g. functions) is interpreted as an outcome of social practices. On this issue, the urban sociology of John Rex and Ray Pahl, cited by Saunders (1985: 72), draws attention to the role of private and public local gatekeepers (defined as estate agents, local authority bureaucrats, social workers, etc.) who provide strategic 'urban' resources and shape an unequal allocation of resources in the city. In recent decades the role of local and national state bodies, along with a capitalist market economy and consumer demand, have come to seem fundamental in explaining the social production of space (Gent and Musterd 2016; Fainstein 2014).

...and the uncertain link between social and spatial inequality

In terms of housing, working, and so on, living conditions can be dissimilar between countries (Immerfall and Therborn 2009; Alves 2015b; Oorschot and Finsveen 2009), and between neighbourhoods in the same city. Empirical studies have found that in countries with lower welfare regulation at national and local level (Gent and Musterd 2016), socio-economic inequality tends to be higher, with the least affluent groups in terms of the possession of economic, social and educational resources occupying a weaker position in the labour and housing markets (Musterd and Ostendorf 2012).

Even in contexts in which social and economic inequality is more pronounced, these inequalities may not translate into increased socio-spatial inequality in the city, for example, in terms of the separation of social categories in space. As Taşan-Kok et al. point out: 'rich and poor do not always live in separated neighbourhoods; they even might live in a quite mixed situation' (2013: 22). A paradigmatic example of this mismatch are southern European cities in which, despite high levels of income and social inequality, historically there have been lower levels of social segregation.

Several reasons have been advanced to explain why socio-economic inequality does not always translate into a separation of social classes in the residential space. Namely, late industrialization and the persistence of informal employment practices, the diffusion of manufacturing within urban districts (Arapoglou 2012: 230), a framework of liberal urban policy and welfare state provision characterized by high levels of informality in access to the property market and the absence of public social housing (Malheiros and Vala 2004; Maloutas 2012) and a dual labour market (Alves 2016). Recently, Leal and Sorando (2016) developed the thesis that socio-economic cleavages and ethnic differences have led to an increase of social inequality in Madrid but not to an increasing segregation, explaining that policies deepened further the shifting and sorting of unequal social groups, often close to one another. However they claim that 'the increasing privileges of upper categories, together with austerity policies implemented in the southern European urban societies' will lead to an increase spatial distance among socio-labour categories (Leal and Sorando 2016: 234).

Studies of Lisbon developed by Carmo and Carvalho have shown that parishes with the highest average earnings are also those with the highest

level of inequality. By contrast, parishes in which the average monthly salary is lowest are also those where inequalities among earnings are the least pronounced (2013: 45). Other studies of Lisbon have confirmed the diagnosis that the social and built homogeneity of some areas is opposed to an increasing inequality of others. On this issue, Salgueiro states that a fragmented post-industrial city has evolved on the substrate inherited from the industrial city, where exclusive and luxurious houses can be observed alongside pockets of misery with little or no relationship between them (2001: 184–85). She sees in the fragmentation of urban space an expression of socio-economic inequality, and a new form of segregation that relates less to zoning than to the restructuring of urban space by capitalist dynamics.[3]

3. For Musterd and Ostendorf (2012), a major function of the concept of fragmentation is the idea urban societies are not simply divided into two, three or four pieces – creating the dual, triple or quartered city – but have fallen into many pieces, with few connections existing between these pieces. The concept of fragmentation is a metaphor to warn against a social breakdown of the city.

ON THE GROUND

Turning to several intersecting hypotheses related to:

- The role played by processes of economic restructuring and residential de-concentration in the increase of spatial and social division in the city of Porto;
- The role played by income inequality in diverse manifestations of spatial polarization in the city of Porto;
- The role of housing policies and town planning in the spatial distribution of social classes and resources across the three residential areas.

It is important to clarify, albeit summarily, the meaning of the concepts of income inequality and spatial polarization and the perspective they will bring to this research.

The concept of income inequality refers to the gap between the rich and the poor within a social entity in terms of income distribution (Alves 2015b). According to Christian Kesteloot, this gap can occur through several processes:

> the rich becoming richer, the poor becoming poorer, a combination of both or through changes in the same sense but with different speed – the rich becoming more rapidly richer than the poor or even the poor becoming more rapidly poorer than the rich.
>
> (1994: 204)

The concept of spatial polarization refers to the separation of the rich and the poor in the urban residential structure owing to an increase in the concentration of affluence in specific parts of the city and a population with fewer economic and educational resources elsewhere. As we have seen, the relationship between the existence of higher levels of socio-economic inequality and of spatial segregation is not straightforward. High levels of socio-economic inequality do not always translate into increased socio-spatial separation. On this issue, Kesteloot notes that:

> Spatial polarization can theoretically occur without social polarization. In that case, it is only a matter of spatial segregation. But in societies with a low level of public intervention in the socio-spatial field (housing provision, public transportation facilities, education, sports, cultural infra-structure and so on), the spatial polarization would generate social polarization through the field of collective consumption.
>
> (Kesteloot 1994: 205)

In contributing to this debate, the research methodology developed here covers a broad range of techniques, including:

- The analysis and comparison of a wide range of statistical data on population, housing, education and the labour market and the cartographic representation of this data using ArcGIS at two different geographic scales: the territory of the Greater Porto (hereinafter GP) and the more detailed scale of the city/municipality of Porto (hereinafter Porto). The creation of maps, or the representation of statistical data through maps, enables visualization of the spatial patterns of several social groups, allowing the analysis of such issues as proximity/distance and the concentration/dispersion of social groups in the residential structure of the city;
- Comparative analysis of three areas in the city of Porto, which are simultaneously characterized by relative internal homogeneity (in terms of social and housing composition) and contrast with each other: the western maritime districts, the historic centre and the traditionally industrial eastern district, to emphasize some of the spatial polarization trends.

Background: Porto in the context of GP

With a population of almost 1.3 million in an area of 815km^2, GP is the second largest urban agglomeration in Portugal. The municipality of Porto has the highest population density value (5943 inhabitants per km^2) and the second-largest absolute population of 227,535 inhabitants (Table 1).

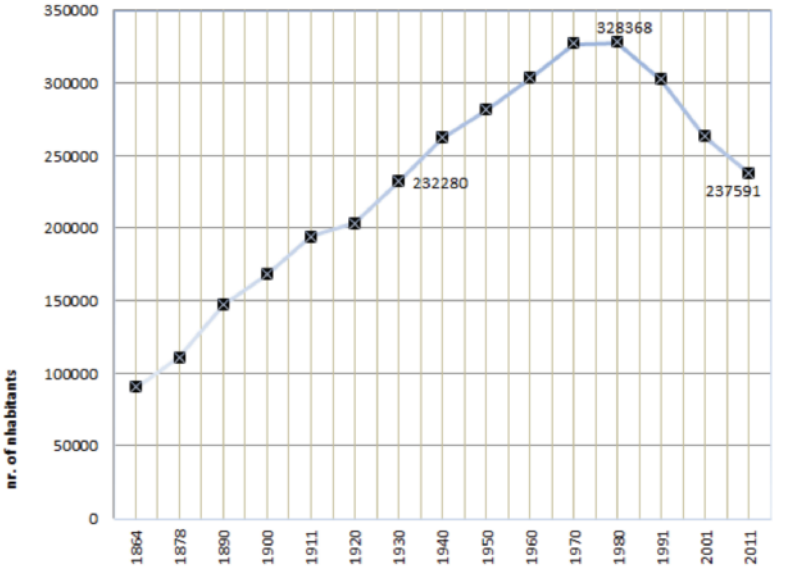
The population of 227,535 was recorded for the first time in the mid-1930s when the region's population was 482,890. After peaking at 328,368 in 1980 (Figure 1), Porto began to shrink, and between 1981 and 2011 the municipality lost about 27.7 per cent of its inhabitants. In 2001 it became the second-largest municipality of GP in terms of population, after Vila Nova de Gaia (Table 1).

It is nevertheless important to note that the trajectory of residential de-concentration did not involve all social groups and areas within the city in the same way or with the same intensity. Rather, the migratory process was socially selective, with the younger and economically more active

NUTS and municipalities	Resident population, 2012	Population Density (inhab. per km^2), 2012	Population Growth (%)		Ageing Index, 2012	Migratory balance, 2012
			1991–2001	2001–2012		
Portugal	10487289	113.7	4.5	0.9	131.1	–37352
North Region	3666234	172.2	5.3	–0.8	118.9	–16584
Great Porto (GP)	1278941	1570.1	6.9	1.1	117.8	–6944
Espinho	30929	1468.8	–4.1	–8.0	167.8	–386
Gondomar	168016	1274.2	12.9	1.9	105.4	–437
Maia	136017	1638.9	26.8	11.8	86.1	–308
Matosinhos	175321	2808.7	9.0	4.3	119.8	–516
Porto	**227535**	**5493.3**	**–13.3**	**–12.9**	**204.8**	**–4579**
Póvoa de Varzim	63282	769.8	13.9	–0.5	91.7	–276
Valongo	94884	1263	14.6	9.3	86.5	74
Vila do Conde	79808	535.5	13.3	6.5	96.5	–129
Vila Nova de Gaia	303149	1799.5	14.6	4.3	104.1	–387

Source: INE, 2012.

Table 1: Basic demographic data of GP.



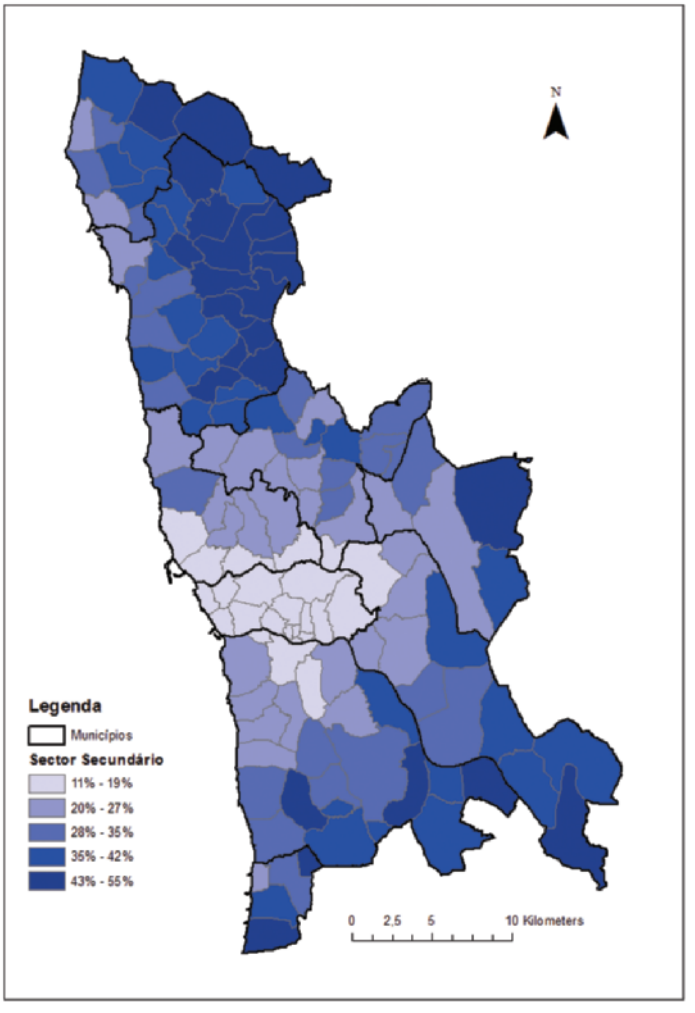
Source: INE, Censos à População.

Figure 1: Resident population of Porto (1864–2011).

tending to migrate to the suburbs. In the areas being studied, the process of economic and social flight to the suburbs has led to a fresh social division of the residential space. The trajectory of demographic loss was closely associated with the suburbanization of labour related to deindustrialization associated in turn with the closure of production sites and of manufacturing jobs in Porto.

The process of industrial decentralization can be divided into two phases according to its more or less planned impetus. The first, and unplanned, phase began in the 1950s and resulted from the improvement of road infrastructures that favoured a scattered pattern of distribution far from the consolidated city. This process was responsible for the establishment of factories in districts with low population densities that were often located near agricultural areas and which later encouraged a dispersed residential pattern and the development of multi-activities (industrial/agricultural) employing low-skilled and low-wage workers (Cardoso 1996; Ferrao and Domingues 1995). Beginning in the 1980s, the second phase was promoted by the development of economic policies that sought to promote the development of industrial areas. This phase featured a certain industrial reorganization and led to the concentration of firms in the new suburban industrial parks. Representing the residential patterns of people employed in the secondary sector in 2011, Figure 2 confirms the shift from the city to suburbs or to areas of low population density.

Along with industrial relocation, other factors reinforced the trends of economic de-concentration and urban (or suburban) sprawl. In the field of urban planning and housing policy, the decision to invest in road infrastructures rather than public transport gave rise to areas of urbanization and construction in the suburbs and to the development of large-scale shopping centres with access to new roads. The process of city depopulation to form a discontinuous, polycentric and dispersed metropolitan area had visible



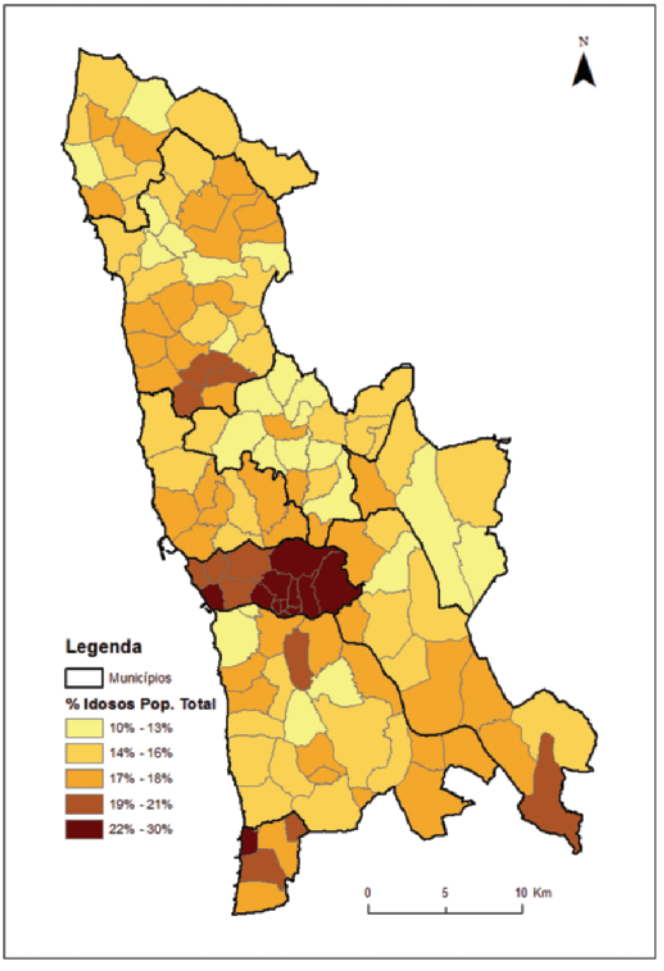
Source: INE, Censos à População.

Figure 2: Residential patterns of people employed in the secondary sector (2011).

impacts on the social recomposition of the population according to such variables as life cycle or age.

Figure 3, which sets out the residential patterns of people aged 65 and over, shows an intense demographic ageing in the central municipality. Thus we see that the more recently built suburban areas contain a younger and more active population, while the central part of GP shows a higher percentage of single occupancy and of elderly people (equivalent to around 22–30 per cent of the total population).

Table 2 shows the high purchasing power per capita of Porto inhabitants, which is around double that of the rest of the northern region and of Portugal as a whole. It also shows a higher level of people dependent on social security benefits such as the social integration income (rendimento social de inserção). Recent studies have demonstrated the high and persistent unemployment



Source: INE, Censos à População.

Figure 3: Residential patterns of people of 65 years and over.

levels of the central and eastern part of Porto and the great inequality and wage disparity that exists (Alves 2012).

There is enough statistical evidence showing high levels of socio-economic inequality in Porto and, owing to the suburbanization process, increased socio-spatial segregation along socio-economic and demographic lines.

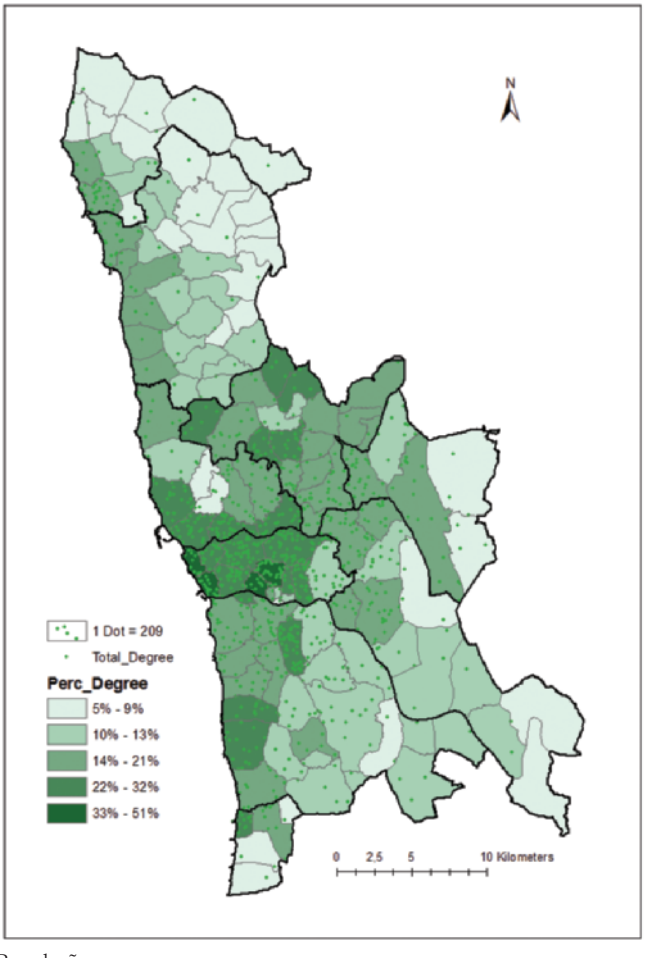
Another important proxy for income distribution is education levels. It is worth recalling statistical data on income is not available at the ward level in Portugal. Figure 4 shows the residential pattern of people with university degrees. The map shows a higher concentration of residents with higher qualifications in the western part of Porto while the suburban municipalities (Valongo and Gondomar) have higher concentrations of those with the lowest education levels.

This section has sought to show the effects of the recent social and economic transformation of Porto on increased socio-economic inequality and spatial polarization, in which the issues of ageing and the concentration of disadvantaged groups are crucial.

	Purchasing Power per capita. 2011	Pensioners		Recipients of unemployment benefits		Recipients of social integration income	
		absolute values	%	absolute values	%	absolute values	%
Portugal	100	2896497	27.6	638317	6.1	421201	4.0
North Region	89.22	967597	26.4	240918	6.6	168824	4.6
GP	111.28	339145	26.5	92854	7.3	89568	7.0
Espinho	99.65	10566	34.2	2079	6.7	1672	5.4
Gondomar	80.35	42013	25.0	12876	7.7	11917	7.1
Maia	112.25	29471	21.7	10088	7.4	6221	4.6
Matosinhos	124.35	45832	26.1	12476	7.1	10953	6.2
Porto	**161.65**	**80499**	**35.4**	**13871**	**6.1**	**22805**	**10.0**
Póvoa de Varzim	**92.71**	14252	22.5	4179	6.6	2458	3.9
Valongo	86.45	21381	22.5	7630	8.0	7105	7.5
Vila do Conde	93.89	19968	25.0	6027	7.6	2415	3.0
Vila Nova de Gaia	99.13	75163	24.8	23628	7.8	24022	7.9

Source: INE, Estudo Sobre o Poder de Compra Concelhio 2011; Instituto Nacional de Estatística (INE), Ministério da Solidariedade e da Segurança Social - Instituto de Informática, I.P.

Table 2: Purchasing power and social protection (2012).



Source: INE, Censos à População.

Figure 4: Residential patterns of people with university degrees (2011).

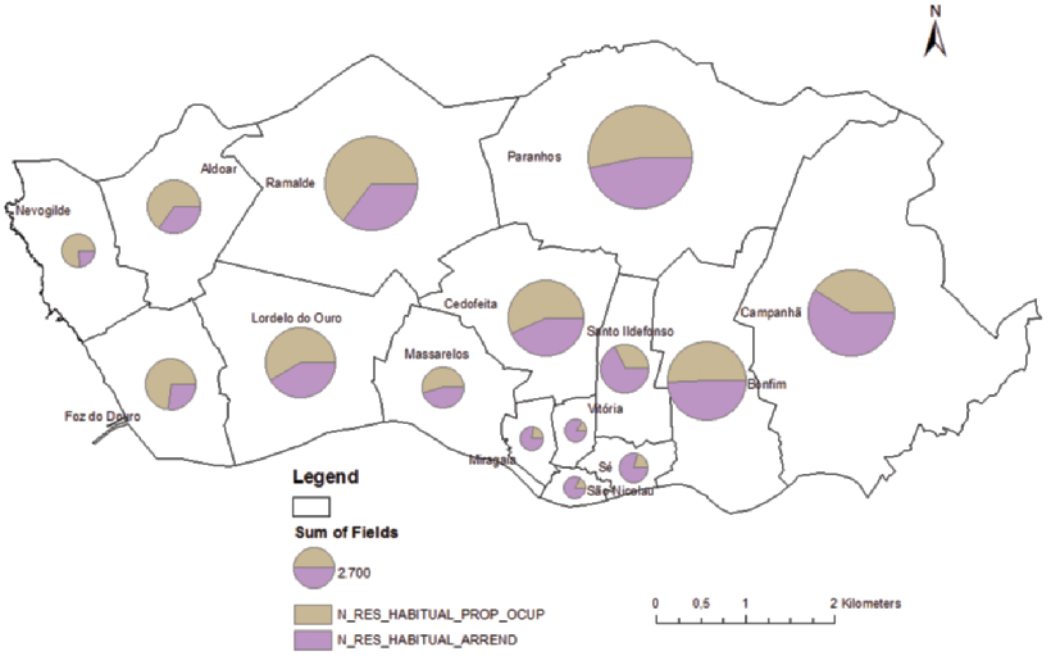
On a more detailed scale, the 'social-spatial divide' hypothesis will be tested below by using 2011 census data at a ward level and variables related to population and housing. The research focusing upon analyses of maps also includes a more systematic comparison of three areas, varied both in their geographical location in the city and in their social and housing structures.

A CLOSER FOCUS

By using statistical indicators on population and housing, the hypothesis of spatial polarization at an intra-urban level is tested. This is done by looking at the residential patterns of various social groups and at housing characteristics, such as spatial distribution by tenure, price and quality.

The research includes a comparison of three areas in the city: the sea front (Nevogilde and Foz do Douro) with 16,000 inhabitants and around 6460 houses; the historical centre (Miragaia, Vitória, S. Nicolau e Sé) with 9300 inhabitants and 4406 houses; and Campanhã in the eastern part of the city, with a total population of 32,700 inhabitants and 12,763 houses (Instituto Nacional de Estatística 2011). These areas are identified in Figure 5 by A, B and C, respectively.

The choice of these areas was guided by the search for territories characterized by a distinct history and geographical location, as well by signs of internal homogeneity versus strong disparity between them. One of the elements shaping the selection was consideration of their housing tenure, justifying the selection of the western sea front dominated by housing ownership versus the central and eastern part where there is over-representation of the private and public rental sectors, respectively.



Source: INE, Censos à População.

Figure 5: Location of the three areas within Porto.

Several publications in the fields of history, geography, urban planning and sociology describe the long process of structuration in these areas, with this article seeking to emphasize some key facts related to this structuration.

Foz do Douro began as a small fishing community which, before the expansion of the city at the beginning of the twentieth century, was considered to be relatively far away. With the trend of bathing for health reasons, by the end of the nineteenth century this area became the city's first seaside resort. In the 1930s, the development of public transport and the completion of several infrastructural works, such as the construction of new streets, parks and pedestrian pathways, increased the number of upper-middle-class residents in the area. Several decisions subsequently enhanced the interests of the most privileged social strata, such as the establishment of low-density residential developments for the affluent and the non-approval of social or other types of affordable housing in the area. In recent decades, through the price mechanism and land speculation, market forces have transformed this into an exclusive high-income area.

The problem of urban decline in the historic centre of Porto has been severe and related to a set of heterogeneous and interacting factors such as suburban sprawl, the freezing of rents that deprived landlords of the incentive to maintain and renovate properties, the flight of the more affluent strata, the arrival of poor and unskilled workers and so forth (Alves 2010). Efforts at slum clearance and physical renewal remained insufficient in the face of limited funding and the intensity and extent of housing deterioration. Over the years, the public authorities developed a process of 'planned shrinkage', to use an expression coined by Bernt et al. (2014: 10), through the displacement of residents away from the centre to suburban housing estates, which deepened the process of demographic decline of the city centre and favoured a process of intense land speculation.

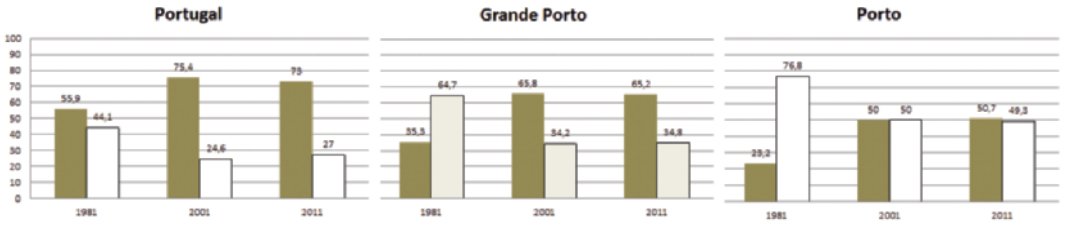
The development of Campanhã was inseparable from the railway that attracted factories and rural workers to this area. The period of greatest prosperity occurred in the late-nineteenth and early decades of the twentieth century as a result of the opening of factories and private-sector housing construction for a mainly poor working-class population. In the 1960s and 1970s the municipality built a number of large housing estates that greatly increased the resident population and increased the proportion of low-income groups and ethnic communities experiencing economic difficulties (Alves 2010).[4]

According to the statistical data, the average monthly rents of conventional dwellings in Campanhã in 2001 was equivalent to 55 euros, roughly one-quarter of the rents in the western part of the city and slightly less than those of the historic centre. One of the factors explaining this low average monthly rent is the high concentration of social housing in this area. Out of a total of 7200 rented houses, 2500 are social housing, equivalent to about one-third of the total rented accommodation (Instituto Nacional de Estatística 2011).

Housing structure

The costs of housing, the spatial distribution of different housing tenures and their quality help explain the residential distribution of various social groups across the city. Figure 6 shows the distribution of conventional dwellings by owner-occupiers and tenants in Portugal generally in 1981, 2001 and 2011 in GP and in Porto. The graphs show the increasing value of owner-occupation in Portugal and in GP, while in Porto, as a legacy of state intervention, there

4. According to official data, of a total of 12,500 people living in the 3700 council housing units, about 30 per cent of the workforce was unemployed in 2001. Even before the rise of unemployment in 2008, the poverty risk rate was already 43 per cent in the social estates of Campanhã, which means that almost half the residents were already living on an income that was below the poverty line (Instituto Nacional de Estatística 2001).



Source: INE, Censos à População.

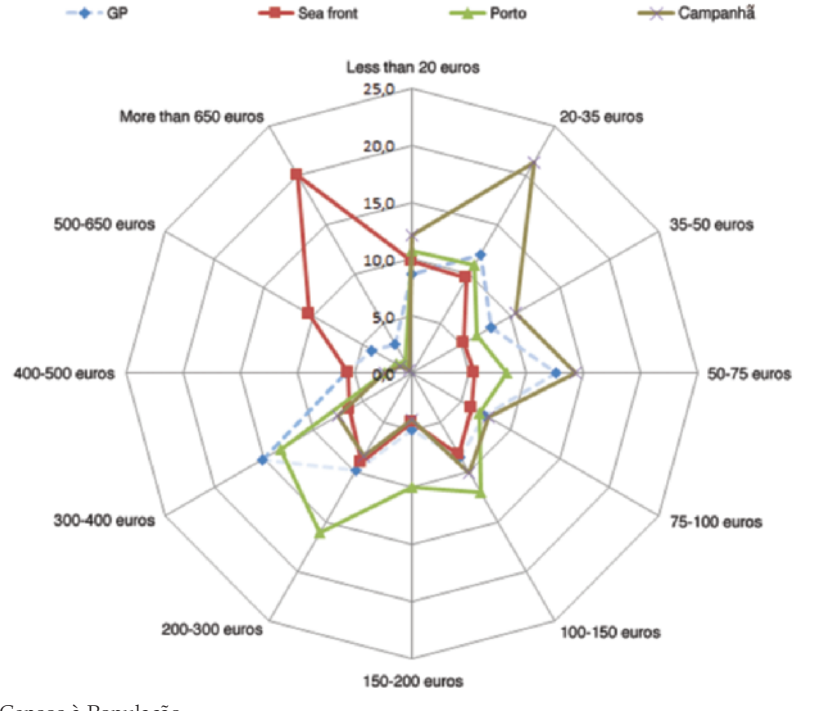
Figure 6: Distribution of conventional dwellings by owner-occupiers and tenants in Portugal (1981, 2001 and 2011).

is a more balanced structure of housing, consisting of 51% owner-occupation and 49% rented, of which about 20% is social housing.

The balance observed in terms of housing tenures at the municipal level has no correspondence at the intra-urban level: that is, the seafront has been largely taken up by owner-occupiers, while the historical centre and Campanhã are mostly occupied by tenants. However, there are further differences, including age, average rents values and vacant buildings.

Figure 7 shows the distribution of rents in the three areas being studied. Reduced rents in Campanhã can be explained mainly by the over-representation of social housing in this area, since the average value of the rents for social housing is around 58 euros per month (Instituto Nacional de Estatística 2012).

The low rents in the areas with a higher proportion of older buildings is related to decision to freeze rents over several decades. First, during the



Source: INE, Censos à População.

Figure 7: Distribution of rents in the study areas.

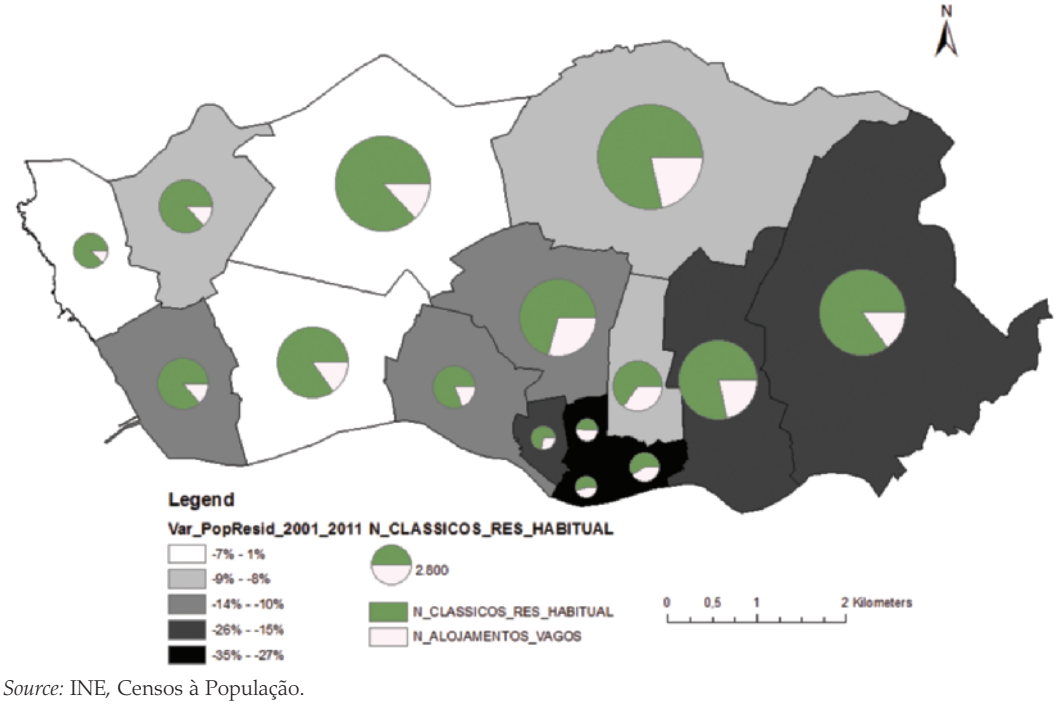
dictatorship in the 1940s when the regime sought to prevent fluidity of social protest, and then in 1974 following the democratic revolution and a period of great social unrest and agitation around the right to housing. Low public and private sector rents led to the disinvestment, degradation and consequent impoverishment of buildings (Branco and Alves 2015).

Figure 8 shows the relationship between the rate of population change and the proportion of vacant versus occupied dwellings, while Figure 9 shows the housing distribution by construction date. The figures reveal that those areas with more recessive demographic dynamics, older buildings and lower rents have a higher proportion of vacant accommodation, which is related directly with building dereliction.

Social structure

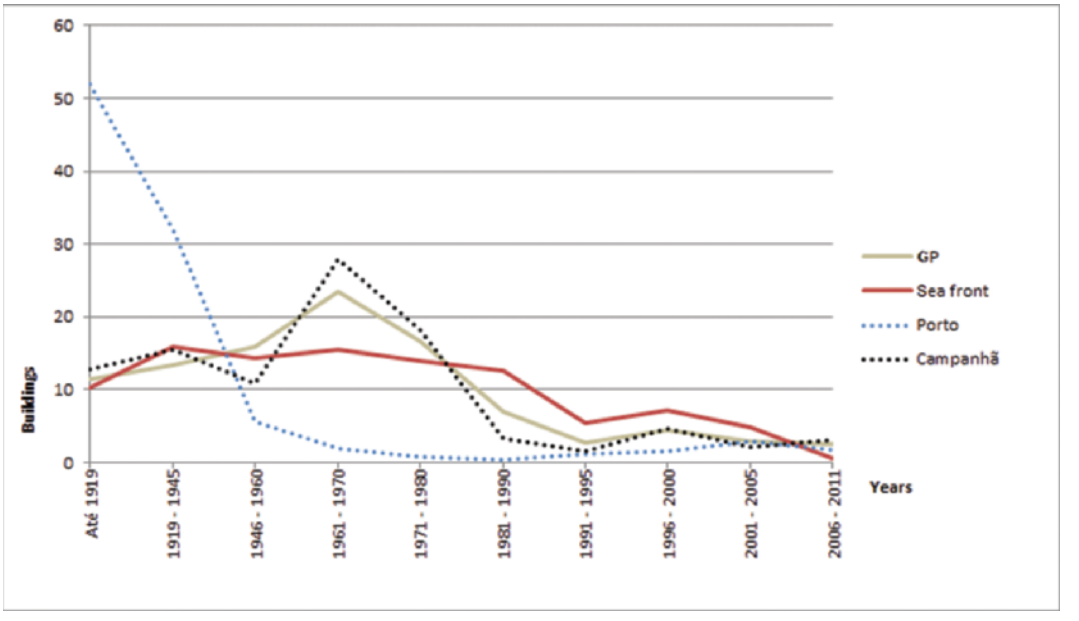
An important strand in the analysis of social inequality is examination of the social and spatial distribution of social classes according to their educational levels and occupational structure. This is because these variables express an unequal possession of cultural and economic resources, a disparity that influences power and opportunity and 'conditions of life, social processes and situations, attributes, leaderships and social practices' (Carmo and Nunes 2013: 376).

In the previous section, the residential patterns of university-educated people in GP (Figure 4) were examined. Now we focus on the educational profile and the occupational structure of the economically active population in the three selected areas. Since occupation and income are strongly correlated in Portugal, with the occupation structure determining income structure in the paid labour market (the higher the job on the occupational ladder, the



Source: INE, Censos à População.

Figure 8: Relationship between rate of population change and proportion of vacant housing (2011).



Source: INE, Censos à População.

Figure 9: Distribution of housing by construction date.

higher the income, with managers and professionals earning the most), this provides a valid methodology for testing the hypothesis of a polarized residential structure. Furthermore, the more socially polarized each area is, the greater the levels of segregation will be between higher professional status and low status socio-economic groups (unskilled workers).

Table 3 shows that while the western part of Porto contains the highest share of population with completed tertiary education, equivalent to 51% in Nevogilde and 42% in Foz do Douro, the historic centre and Campanhã are characterized by the lowest shares, with 7 and 9%, respectively, showing a clear socio-economic residential sorting based on income.

Table 4 shows the structure of the economically active population according to standardized socio-economic categories (Instituto Nacional de Estatística 2011). The percentage was calculated by column to show the

	2011 population	% No formal education	% higher education	Illiteracy rate
Porto	237591	5.45	27.2	2.84
Nevogilde	5018	3.31	50.9	0.55
Foz do Douro	10997	3.82	41.6	1.49
Miragaia	2067	5.66	17.1	4.24
Vitória	1901	7.52	11.8	4.54
São Nicolau	1906	7.92	7.0	5.74
Sé	3460	8.44	9.0	5.55
Campanhã	32659	7.17	11.7	4.61

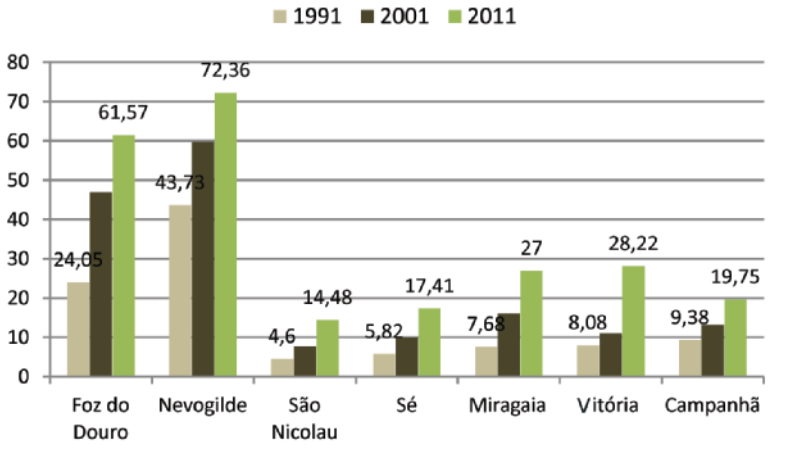
Source: INE, Censos à População.

Table 3: Educational level attained.

Socioeconomic groups	Nevogilde		Foz do Douro		Miragaia		Vitória		S. Nicolau		Sé		Campanhã	
	abs.v.	%	abs.v.	%	abs.v.	%	abs.v.	%	abs.v.	%	abs.v.	%	abs.v.	%
Employers with intellectual, scientific and technical professions	**127**	*5.5*	**196**	*3.9*	**11**	*1.2*	**10**	*1.3*	**7**	*0.9*	**6**	*0.4*	**122**	*0.9*
Employers of industry and trade services	**150**	*6.4*	**239**	*4.8*	**8**	*0.9*	**10**	*1.3*	**12**	*1.5*	**12**	*0.9*	**172**	*1.3*
Employers of the primary sector	**0**	*0.0*	**0**	0.0	**0**	0.0	**0**	0.0	**0**	0.0	**0**	0.0	**3**	0.0
Small employers with intellectual and scientific professions	**139**	*6.0*	**235**	*4.7*	**10**	*1.1*	**22**	*2.8*	**9**	*1.1*	**9**	*0.6*	**93**	*0.7*
Small employers with intermediate technical professions	**35**	*1.5*	**72**	*1.4*	**3**	*0.3*	**2**	*0.3*	**3**	*0.4*	**6**	*0.4*	**71**	*0.5*
Small employers of industry	**83**	*3.6*	**122**	*2.5*	**6**	*0.6*	**7**	*0.9*	**10**	*1.2*	**13**	*0.9*	**171**	*1.3*
Small employers of trade and services	**55**	*2.4*	**125**	*2.5*	**18**	*1.9*	**33**	*4.2*	**32**	*3.9*	**42**	*3.0*	**318**	*2.3*
Small employers of orimary sector	**1**	*0.0*	**8**	*0.2*	**0**	*0.0*	**0**	*0.0*	**1**	*0.1*	**0**	*0.0*	**4**	*0.0*
Self-employed professional in intellectual and scientific fields	**87**	*3.7*	**110**	*2.2*	**18**	*1.9*	**11**	*1.4*	**2**	*0.2*	**12**	*0.9*	**100**	*0.7*
Self-employed technical and intermediate professionals	**41**	*1.8*	**60**	*1.2*	**5**	*0.5*	**2**	*0.3*	**4**	*0.5*	**7**	*0.5*	**66**	*0.5*
Independent industrial and craft workers	**3**	*0.1*	**20**	*0.4*	**6**	*0.6*	**2**	*0.3*	**8**	*1.0*	**17**	*1.2*	**144**	*1.1*
Service providers and independent traders	**54**	*2.3*	**96**	*1.9*	**19**	*2.0*	**22**	*2.8*	**20**	*2.4*	**50**	*3.6*	**419**	*3.1*
Self-employed in the primary sector	**0**	*0.0*	**4**	*0.1*	**0**	*0.0*	**0**	*0.0*	**1**	*0.1*	**0**	*0.0*	**6**	*0.0*
Directors and Managers of public enterprises	**231**	*9.9*	**387**	*7.8*	**19**	*2.0*	**8**	*1.0*	**9**	*1.1*	**15**	*1.1*	**220**	*1.6*
Managers of small businesses and organizations	**46**	*2.0*	**101**	*2.0*	**5**	*0.5*	**5**	*0.6*	**4**	*0.5*	**7**	*0.5*	**67**	*0.5*
Intellectual and scientific staff	**714**	*30.6*	**1394**	*28.0*	**141**	*15.0*	**87**	*11.2*	**48**	*5.8*	**103**	*7.4*	**1299**	*9.5*
Intermediate technical staff	**171**	*7.3*	**441**	*8.9*	**55**	*5.9*	**32**	*4.1*	**43**	*5.2*	**50**	*3.6*	**883**	*6.5*
Intermediate administrative staff	**46**	*2.0*	**98**	*2.0*	**15**	*1.6*	**7**	*0.9*	**7**	*0.9*	**11**	*0.8*	**134**	*1.0*
Clerks trade and services	**200**	*8.6*	**705**	*14.2*	**266**	*28.4*	**270**	*34.7*	**269**	*32.8*	**467**	*33.4*	**4268**	*31.4*
Skilled and semi-skilled manual workers	**28**	*1.2*	**181**	*3.6*	**113**	*12.1*	**83**	*10.7*	**95**	*11.6*	**166**	*11.9*	**2136**	*15.7*
Employees in the primary sector	**1**	*0.0*	**7**	*0.1*	**4**	*0.4*	**2**	*0.3*	**1**	*0.1*	**5**	*0.4*	**35**	*0.3*
Administrative trade workers and unskilled services	**63**	*2.7*	**250**	*5.0*	**150**	*16.0*	**102**	*13.1*	**164**	*20.0*	**238**	*17.0*	**1856**	*13.6*
Unskilled workers in industry	**7**	*0.3*	**21**	*0.4*	**26**	*2.8*	**24**	*3.1*	**22**	*2.7*	**83**	*5.9*	**344**	*2.5*
Unskilled workers in the primary sector	**0**	*0.0*	**1**	*0.0*	**1**	*0.1*	**0**	*0.0*	**0**	*0.0*	**2**	*0.1*	**6**	*0.0*
Members of Armed Forces	**4**	*0.2*	**7**	*0.1*	**0**	*0.0*	**1**	*0.1*	**3**	*0.4*	**2**	*0.1*	**51**	*0.4*
Other occupations	**44**	*1.9*	**97**	*1.9*	**38**	*4.1*	**36**	*4.6*	**47**	*5.7*	**76**	*5.4*	**623**	*4.6*
Economically active population (total)	**2330**	*100*	**4977**	*100*	**937**	*100*	**778**	*100*	**821**	*100*	**1399**	*100*	**13611**	*100*

Source: INE, Censos à População.

Table 4: Resident population by socio-economic group.



Employed population (CPP=1 or CPP=2))/ Total Employed Population]*100

(CPP Portuguese Classification of Occupations; 1= Directors and Managers of public enterprises; and 2= Intellectual and scientific Staff)

Source: INE, Censos à População.

Figure 10: Distribution of socio-economic groups located at the top of the professional pyramid (1991–2011).

socio-professional structure of each parish. The results show dissimilar spatial distributions of socio-professional categories across areas. In Campanhã and the historic centre there is a concentration of semi- and unskilled manual workers with a reduced level of professional skills and lower wages. It is worth noting that in the case of the historic centre this concentration complements the aforementioned concentration of elderly, who are dependent upon ungenerous state pensions.

The results show a marked decline in jobs related to a Fordist economy and the growth of the tertiary sector (which in Porto accounts for 85.4 per cent of total employment) that was not accompanied by a rise in qualifications, particularly in the central and eastern parts of the city that are characterized by unskilled occupations and low wages. Conversely, in Foz do Douro and Nevogilde the concentration of socio-economic groups located at the top of the professional pyramid is greater and has increased. The higher income professional groups, such as company directors and managers, tend to exhibit the highest level of segregation in the western part of the city. The spatial redistribution of population and economic activities has reinforced a process of residential segregation between these three different parts of Porto.

The results show the growth of highly skilled and well-paid jobs in the western part of Porto, as opposed to unskilled and low-paid jobs in the central and eastern parts of the city. Hence, the results show that the socio-economic inequality at city level is reinforced by an increasing separation of social classes across geographical space, with the residential structures marked by sharp socio-spatial divisions (based upon income, occupation etc.) at the intra urban level. On this issue, it is worth recalling that increasing urban socio-spatial inequality is a major source of vulnerability in contemporary societies. As Taşan-Kok and Stead explain: 'segregated communities have less chance to cooperate and coordinate actions when needed. Socio-spatial segregation

also limits the democratic participation of diverse groups in common actions and negatively affects learning process of adaptation' (Taşan-Kok and Stead 2013: 72). Increases in socio-spatial inequality can both reinforce processes of economic inequality and lead to a reduction in social cohesion that can threaten society as a whole.

CONCLUSION

This article sprang from the conviction the social sciences have witnessed a spatial turn that has allowed a better understanding of the multifaceted connections between social and spatial relations and reviews literature that focuses attention on the complex spatial relationship that constitutes social inequality on several scales, including the national and urban scales.

In respect of the empirical element, after considering the high levels of inequality in crucial domains of Portuguese society, such as education and income (Alves 2015b; Costa 2012), the article asks whether this high level of socio-economic inequality has translated into an unequal urban structure at the local level, and the ways in which this has created further social and spatial inequalities in the urban context.

The article develops a methodology for investigating the relationship between social and spatial inequality in Porto by using an empirical approach that attempts to provide valuable insights into the debate on economic inequality as reflected in patterns of social class division in the residential space, and how the latter may create further social polarization.

The results confirm the initial hypotheses of increasing socio-spatial inequality in Porto, in a context in which public policies are not geared towards the goal of mitigating socio-economic disparities, but which are rather shaped by consolidated economic disparities in the volume and the composition of capital (Bourdieu 1997).

Considering that the structure of welfare state and public policies produces outcomes that are increasingly characterized by the division or separation of social classes across Porto (with high-income categories increasingly isolated in the western part of the city), at this point the present author claims 'the right to the city' should not be understood merely as the right of access to what already exists, but the right to remake the city by creating a qualitatively different kind of urban sociality (Harvey 2003: 939), and this process should not be based upon what property speculators and neo-liberal state planners define, but upon the active right to make a different city, shaped according to the values of social justice and inclusiveness (Harvey 2003: 941).

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